

JOURNAL

OF THE

ASIATIC SOCIETY.

Journal of a trip through Kunawur, Hungrung, and Spiti, undertaken in the year 1838, under the patronage of the Asiatic Society of Bengal, for the purpose of determining the geological formation of those districts.—By THOMAS HUTTON, Lieut., 37th Regt. N. I., Assistant Surveyor to the Agra Division.

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PART III.

On the 3rd July I retraced my steps to Hungo, and found a very different aspect to that I had witnessed in the beginning of June; then the snow was lying deep on all the surrounding hills, and within a few yards of the village itself. The yellow flowering furze was the only plant that seemed hardy enough to face the chilling waste of snows that spread around. Now, the wintery sheet had melted all away, except towards the summits of the mountains, the furze had lost its golden flowers—and in their place were others of various kinds scattered through the fields or on the mountain's side. The loud sharp whistle of the bhair was hushed, and had given place to the shrill chirp of the cricket and the grasshopper. A tinge of green was seen to pervade each mountain side, and the cultivation round every village was of the brightest and richest hue. In short, the glad smile of summer shone around at every step, and the chill white garment of the winter was fast receding to its farthest limits. How marked a contrast, was produced in one short month! Had I returned by any other route, I should undoubtedly have been tempted to describe these hills as bare

and unproductive of ought, save furze. How cautious therefore should the traveller be, lest noting down too hastily his first impressions, he be lead to pronounce that country barren, which at another and more favourable season, he would find rich in plants and cultivation. Such indeed, I am told, has been the case at this very mountain of Hungrung; M. Jacquemont, who crossed it in summer, when all was "blythe and gay," having passed some severe critical remarks on Messrs. Herbert and P. Gerard, who crossing it some years previously in autumn, when all the beauty of the scene was over, had pronounced it wanting in botanical treasures. Both parties were somewhat hasty, the one seeming to think the district always rich in flowers, and the other, that it never was so; neither seem to have taken into consideration the effects to be expected from change of seasons, and truly when I first crossed the Pass in June, I was inclined to adopt an equally hasty conclusion; for the very look of the place, so still and lonely, so bare and sad, seemed to strike a chill upon me, and to depress my spirits, so that on my return, the beauty that every where met the eye appeared to have been conjured up by magic, or like the sudden and well managed shifting of a winter scene, to one of smiling summer.

From Hungo we ascended to the Hungrung Pass, which is the boundary between Kunawur and the Tartars of "*Hungrung within.*" In place of the cold sheet of snows that was every where spread around when I last travelled over this ground, the *Chinese furze*, the wild shalot, yellow potentilla, rhubarb, and several other plants now enriched the scene, and the delicate flowers of "*Saxifraga ciliata*," were abundant.

On recrossing the Hungrung Pass, I once more entered Kunawur, and bid a long adieu to Tartary and Tartars.

I am far from thinking, with the late Dr. Gerard, that "the Tartars are the finest fellows I ever met with,"—nor can I give them the preference over the Kunawurrees. That they are frank and free enough in their manner, I allow; but I often found them too much so, and so troublesomely curious and inquisitive were they, that it was sometimes only by threatening them with the stick, that I could keep my tent free from them. As to their honesty, it appeared to me very like the honour which is said to exist among thieves;

they are true and honest among themselves, *because* they find it mutually their interest to be so, in a country where each is necessarily more or less dependent on his neighbour for assistance;—but in their dealings with a stranger, they do not hesitate to lie and cheat as much as any of the people of the plains of India.

Of this I had several good proofs while among them, one instance of which was practised at Dunkur. Being sadly in want of provisions for my people, I had, with much difficulty, at length prevailed upon the killadar of the fort to sell me ten rupees worth of wheaten flour. The money was paid in advance, and it was agreed that I should march to Leedung, and leave behind me three or four of my people to receive and bring it on the next morning. Accordingly I proceeded to the fossil site, and halting there one day, we consumed all the provisions we had with us. Instead of furnishing the flour by noon on the stipulated day, it was not produced and delivered over to my people until late in the dusk of the evening, when it was too dark to see its quality, which was of course exactly the aim of the seller; for on its arrival in my camp the next day, it proved to be instead of wheat, for which I had paid a higher price than it was selling for among themselves, coarse barley meal, of the worst description, and which even the coolies refused to eat. Luckily we purchased enough at Leedung for the day's consumption. This was so evident an endeavour to take me in, and pocket the difference in price, by giving me bad barley instead of good wheat, that I instantly returned it, and demanded the strict fulfilment of the agreement, under pain of helping myself. My demand was acceded to immediately, as even then I only got seven seers for the rupee, while among themselves it was selling from ten to twelve seers.

Another instance of their roguery which annoyed me excessively, occurred during the short march from Nabo to Leeo. I had purchased an enormous pair of horns with the skull of a shawl goat, and had placed them on a kiltah, or basket, containing specimens of rocks and minerals. On arriving at Leeo the horns had disappeared, and all inquiry to discover the thief was fruitless: they now no doubt grace some pile dedicated to their favourite Devi. This theft however, was the least of the evil, for the rascally Tartar, thinking his load too heavy,



had thrown away a number of valuable rock specimens also. So much for *Tartar morals*.

If coolies are required from a village in Spiti, no man will move without first receiving his four annas, and it is then by no means improbable, that he will set down his load about half way, and leave you in the lurch, or he will leave part of it behind, and carry on the rest, telling you very coolly that it is too heavy, although perhaps the whole does not amount to twenty seers.

Sometimes again, no man will stir even if you offer him double pay and a light load, for fear the Mookiah of the village, who happens to be absent, should feel displeased at his giving you assistance, and in this case the load must be left behind until you can send back a man for it from the next stage. If asked whether they will sell you a sheep or goat, flour or birmore (woollen stuff,) they invariably tell you there is no such thing to be had in the village, either because the season has been bad and the crops have failed, or because somebody has robbed them; while at the same time they have plenty of every one of the articles demanded; but their fears that the traveller will take what he fancies, without giving them payment for the same, at once prompts them to tell a lie as the safest mode of escape. When once assured of payment, however, they bring their goods forward, although at a most exorbitant price, thinking, no doubt, that as a paying customer is seldom met with, the best way is to make the most of him when he does appear.

It is very true that all this may originate from the mode in which they are treated by their governors, and that if they were more happily circumstanced they would behave otherwise; but with the causes of their behaviour, I have nothing to do, and I therefore speak of the Tartar as I found him.

These remarks however are much more applicable to the Tartars of Spiti than to those of Bussaher, or as they term themselves by way of distinction, both from the Tartars of other districts and from the Kunawurrees, "Tartars of Hungrung within."

The Tartars of Hungrung are subject to Bussaher; those of Spiti to Lādāk; and the Chinese Tartars to China; these although essentially the same people, have nevertheless their peculiarities and distinctions both in dress, and language.



The dress of the Tartars consists in general of a strong and thick birmore, which is manufactured by themselves from the wool of the Thibetan sheep. The coat or body dress fits somewhat tightly over the breast and shoulders, and has long sleeves ; it descends as far as the knees, but is not plaited like the dress of Kunawur ; they wear also large loose trowsers with the ends tucked up, and tied at the knee, causing them to fall in large bags nearly to the ankle. The foot is encased in a strong, and clumsily made shoe of leather, to which is attached a woollen stocking reaching to the knee, where it is confined by a garter beneath the trowsers.

This stocking is generally of two colours, the lower half being red or yellow, and the upper half blue. This is the dress of a decently clad person, but in general they are seen clothed in rags and tatters of the filthiest kind, their stockings patched with yellow, red, blue, and every colour of the rainbow, yet bearing no more resemblance to *Tartars*—to which the fanciful imagination of a former traveller has likened them—than do the patched, and parti-coloured rags of an English beggar, to the neatly arranged colours of a Highland plaid.

To the above dress is often added a red linen sash, in which is stuck a knife, and a steel tobacco pipe, called a “gungsah” ; it is sometimes inlaid with silver, and rudely worked, and is manufactured in Spiti from the iron which is imported from the lower hills. The bowl for the tobacco, and the *tout en semble* have very much the form of an English tobacco pipe. The Chinese Tartars have them made of brass, and neatly ornamented ; a small leathern purse in which is kept the tobacco in a dried state, and a steel, or chuckmuch for striking a light, are also suspended from the waist by a string, or sometimes a brass chain.

Round the neck is worn a necklace of pieces of amber and coloured stones, and many of the devout have also a long string of wooden beads, which are counted over as they hum an invocation to their deity.

In the form of head dress there is some difference ; that of Hungrung being usually a close fitting cap, with a flap to protect the ears and nape of the neck, and which in the summer is turned up. The Tartars of Spiti wear the same, as also a kind of bag-shaped cap, the upper part of which flaps over one side of the face ; this last is also worn in Ludak.

The Chinese Tartars again are usually bare headed, with the hair in front cut close, or gathered back into a long plaited tail, which falls down behind.

The women are certainly, without exception, the ugliest I ever beheld, and usually vie with the men in filthiness of dress and person. They are fond of red garments, which consist of a woollen petticoat reaching to a little below the knee, with trowsers and boots similar to those of the men; a blanket is also usually thrown across the shoulders, and fastened in front upon the breast with a large steel needle or piece of string.

In Kunawur a kind of brooch made of brass, and called "peehook," is used instead of the needle, and looks better.

Some wear a cap like the men, but generally the hair is thrown off the forehead, plaited into numerous long tails, and hangs down the back, where it is kept from flying about in the wind by a girdle, which confines it to the waist; this is sometimes of leather, and is studded over with pieces of amber and coloured stones; another similar strap of leather is also worn on the head, hanging from the forehead over the crown and down the back, this too is studded like the former with stones or glass of different colours, and is used both as an ornament and as a means of keeping down the back hair by its weight.

When kept neat and clean, as some of them are, this style of head dress has a very pleasing effect.

Both men and women have very low, flat foreheads, small eyes, broad flat faces, and high cheek bones, which together with a cloak of goat's skins worn by the women with the hair inwards, gives to their square short figures very much the appearance of the pictures we see of the Esquimaux.

To the Tartars of Hungrung and Spiti, feelings of modesty appear to be totally unknown, or if known, they are disregarded. Men and women too, may sometimes be seen unblushingly bathing together in the same stream, in a state of nakedness.

The Tartars of Spiti are stout made, athletic looking fellows, but they are poor spiritless cowards, forming in this respect, if report speaks truth, a marked contrast to the tribes of Chinese Tartary, who are represented as a bold and fearless people, though of a mild and gentle disposition.

When the Rajah of Ludak was lately expelled by the troops of Runjeet Singh, and forced to seek shelter in Spiti, the Tartars assembled to the number of 400 men, and posted themselves at a gorge, in order to check the advance of the Seiks, who were reported to have entered the district. The position they had chosen was one where a handful of resolute men might have held an army at bay, and they valiantly looked forward to the defeat of their enemies.

When the foremost of the Seiks appeared, a single matchlock was discharged, doubtless with the intent to strike a panic into the advancing foe, but it had unfortunately quite a contrary and unforeseen effect, for no sooner was the report heard, than, without stopping to witness the result of the shot, off scampered the Tartars, as hard as they could scramble over the hills, and the enemy, who amounted after all to no more than *six* men, marched through the district and compelled the Rajah, (who fled on hearing of the result of the *battle*,) to seek protection in Bussaher.

When I asked the Tartars how they could be such cowards as to run from six men, they replied that they did not know at the time that their enemies were so *few in number*, or they would have fought them!!

Throughout the districts of Hungrung and Spiti, as also in the upper parts of Kunawur, where the Bhuddist religion prevails, oblong piles of stones are constantly met with by the road side, and the custom is always to pass, so as to leave them on the right hand; in the observance of this the Tartars are very scrupulous. On these piles are numerous slabs of various sizes, with inscriptions engraven in the characters of Thibet by the Lamas, who appear to be the only people who can read them. These inscriptions "hieroglyphics," as Dr. Gerard has termed them, are usually the sentence "*Oom manee paimée hoong*," repeated two or three times on the same slab; others bear longer sentences from their sacred books, and all are analogous to the tombstones of our own country. When a person dies the body is burned to ashes, and intimation being given to the Lamas or priests, a stone is prepared and engraven with some sacred sentence, and when ready to be deposited on the pile of stones, or "manee" as it is termed, the friends and relations of the deceased person assemble, and repairing to the spot, walk several times round the mance,



repeating the sentence "*Oom manee paimee hoong*," as fast as they can, in a sing-song voice. After this the Lama deposits the stone, and the party retires.

The slabs placed on these piles are sometimes very creditably carved; at others quite the reverse, being mere thin slabs of slate, with the letters scratched on the surface.

The word "manee" is also applied to a small brass barrel-shaped instrument, about two or three inches long, which is made to revolve round an axis, one end of which is held in the hand; the oftener this is made to revolve during the day, the greater chance the person has of going to heaven. It is laid aside while the possessor is employed in laborious work, or any occupation requiring the assistance of both hands, but the instant that task is accomplished, the whirling of the manee is resumed. In it are enclosed a few scraps of paper, inscribed by the Lamas with some sacred sentences.

The district of Spiti is said to contain about forty villages, and four hundred families; so that if we allow six and a half persons as an average to each family, which will certainly be the utmost, it will furnish a population of about two thousand six hundred souls. In point of scenery and general appearance, the features of the country throughout are far different, and less attractive than the hills of Kunawur.

Through the latter country we see the mountains towering aloft in ragged and shattered pinnacles, bearing full witness to the mighty and irresistible nature of the agency which has torn their firm strata asunder, and hurled them aloft in spires of various forms. Such are the usual characters of primary formations in every country.

The sides of the mountains are there clothed often to their very crests with forests of oak and pines, cheering the traveller, and robbing the gigantic and snow-clad mountains of their terrors. Villages and cultivation are met with at no great distance from each other; and all bespeaks the presence of industry and plenty.

Throughout the Tartar districts of Hungrung and Spiti, all wears a different aspect,—a dull and melancholy air of desolate sadness, seems to pervade the scene;—the mountains, less bold and rugged, have a blackened and charred appearance, caused by the de-

composing strata of clay-slates and shales in which they abound. These hills are of the secondary formation, and their outline more gradual and rounded, wants that air of majesty and grandeur which the primary class possesses. Here are no trees, no forests to take off the sombre aspect of the view,—but a bare and barren waste of crumbling soils meet the eye at every turn. Broad and sterile tracts of alluvial deposits are also traversed in the bed of the valleys, now high above the river's course, and which seem from their appearance to invite the hand of industry to cultivate the soil, yet days may be passed without a village being met with to gladden the cold and dreary solitude.

If even a village be found, no welcome is seen in the eyes of the half scared inhabitants, who, fearful lest their stores should be taken from them without payment, either deny that they possess any thing at all, or abandon their huts at the approach of the intruder. When assured that no force will be used towards them, they become, on the other hand, such harpies, that it is impossible to procure the commonest article without paying a most exorbitant price for it. A great inconvenience arises from the want of a copper currency. Throughout the districts of Hungrung and Spiti, as far as I travelled, nothing could induce the people to receive pice; they have no use for them among themselves, as every thing is on a system of barter,—wool for grain, woollen stuffs for salt, tobacco, &c.,—but no money generally speaking passes from hand to hand among them. The only time therefore when they find the use of money is at the annual fair held at Rampore in the month of November, at which season they purchase the various articles and supplies which are to last them till the same time in the ensuing year,—or which are to be taken up into the higher and remoter hills. In exchange for these things, which consist of goor, tobacco, iron, grain, &c. they give to the dealers, biangee\* wool, pushm, sooklant, birmore, chowrees, blankets, borax, &c.

Even here therefore they pursue a system of barter with the people of the lower hills and plains, and their money is only useful when they wish to purchase some trifling articles, such as beads, looking glasses, &c., from those to whom their merchandise would be useless.

\* A term applied to Thibet sheep wool.

In Spiti the only coins which are received, are the old Culdar rupees, and a small silver money of Ludak, of four annas in value, called a "Powlee."

Thus, as no pice are current, the value in full must either be taken for your money, or you pay four annas for that which is worth but one. The way my people used to manage, was to club together to take a certain quantity of anything, so as to have the full value of their money; but I was constantly obliged to pay four annas for the cup of milk for my breakfast, or drink my tea without it.

In Hungrung, which is under the government of the Bussaher Raja, another silver coin, worth two annas, and also sometimes termed a "Powlee," though more properly a "Timashé,"\* is current, as it is likewise in Kunawur. Still, except in Kunawur, no pice are received, and the people say they have no use for them. Formerly there existed a *brass* currency in Hungrung and Kunawur, but it has long since fallen into disuse. The inconvenience, however, is not so great in Hungrung, because the Powlee is of only half the value of the Ludak coin. Silver money is always readily received, because it can be applied to various purposes, either in paying the rents, &c. to their governments, or by melting down into ornaments.

Lead is found in the neighbourhood of Pokh, but in such small quantities that no mines are worked, and it is only when a supply of balls are required, that any one will take the trouble of going in search of it.

The district of Spiti may be said to produce no trees at all, except a few poplars and willows planted round the villages, to serve for economical purposes when required, and which being all planted by the hand of man cannot properly be admitted into a list of the productions of the country, or suffered to be at all characteristic. No fruits of any kind are seen, neither grapes, peaches, apricot, apples, walnuts, nor in fact any of those fruits which are so abundant in Kunawur. Of shrubs, the "Himalayan" and "Chinese fruze"† are the most abundant, and form the chief fuel of the people; these are cut and dried in the summer months, and stored up on the flat roofs of their houses, where they form thick stacks against the

\* Is this a corruption of "Timour Shah-i?"

† Astralagus.



rigors of the winter season. Besides the furze there are few shrubs met with, save the dog-rose, and a creeping plant called "Kábráh," which spreads along the ground, bearing a large and beautiful white flower. The rose is sometimes cut and stored up also with the furze for fuel. Growing wild over the almost barren hills, amidst the loose and crumbling soils, is a small plant bearing a pea-shaped flower, of a pale rose colour, the leaves of which when bruised are thought by the shepherds to be efficacious in the curing of maggots in sheep, and which when applied to the infected part, is said to cause the insects to drop out; it is called "Taksha."

A traveller journeying through this district in the summer months, would fancy, from the few sheep and cattle seen about the villages, that flocks and herds were wanting; the fact however is far otherwise. In June when I passed up and down the valley of the Spiti, I scarcely saw either a sheep or a goat, excepting the flocks laden with grain, and which did not belong to the district. Of cows there were a few, but yakchas\* none. This is owing to the custom which prevails, not only here but in Hungrung and Kunawur also, of sending the flocks to the higher regions, where, when the snows have melted away, a rich vegetation soon springs up, affording a pasture that the lower tracts cannot produce. Grasses, potentillæ, wild onions, rhubarb, and herbs of various kinds abound over these tracts, intermingled with the furze, and extending to the height of 16,000 feet above the sea. The sheep and goats are tended during the day, and penned at night, sometimes on the open mountain side, guarded by several dogs, or enclosed in temporary huts called Dogress.

The yaks, on the other hand, are turned loose on the pastures, and left at large to roam at will, and to take care of themselves during the summer, and are only reclaimed when the ploughing season or the winter arrives. They are employed both as beasts of burthen and in the tilling of the ground, though former travellers have denied that they are used in husbandry. For the former purpose, however, ponies and goats or sheep are preferred, as the yak cannot travel for many consecutive days without being knocked up. In the plough they have much more the appearance of

\* Yák or Yakcha is the name of the Tartaric or Yak ox (*Bos poëphagus*.)

large shaggy bears than of oxen, and like true mountaineers they evince the greatest impatience under a yoke, and it is therefore necessary for two men to attend the plough,—one directing the plough, while the other walks before and leads the cattle, which are guided from the nose like the oxen of the plains.

It has been said that the yak is so savage, as often to put to flight the inhabitants of a whole village. To this opinion I can by no means assent, for though I have often passed a herd at graze upon the mountains, or carrying burthens along the road, I never saw the least sign of vice among them, nor did they attempt to run at any body. On the contrary, I pronounce them to be gentle and timid, evincing always much more disposition to run from, than at, one; such too, was the character given of them by the Tartars. It is very probable that a savage animal may occasionally be found, as we know to be the case with the cattle of our own country,—but this is only an exception, and cannot justify the sweeping assertion that the breed is savage.

The best proof of their gentleness is found in the fact, that a herd of twenty and thirty yaks is often driven by a mere child, and I could hear of no instance in which the urchin needed farther assistance.

In the higher parts of Kunawur and in Tartary, the yak itself is the breed of cattle in most general use, but in the less elevated tracts, and in lower Kunawur, several cross breeds are used.

The *male* is termed “Yakcha,” and the *female* “Breemoo”; this is the true “*Bos grunnius*,” or Grunting ox” of Linnæus, and the “*Bos poepbagus*” of Hamilton Smith. From the *Yakcha* and the common little cow of the lower hills, proceeds the “*Zo*”, and its female “*Zome*”; from these and the *Yakcha*, or *Breemoo*, proceeds the “*Strool*” and “*Stroole*.” Both these cross breeds are somewhat similar in form to the yak, but they want the long hair on the sides and tail, and are less strongly made.

From the “*Breemoo*,” or female yak, and the Hill bull, proceeds another cross breed very similar to the foregoing, and called “*Garra*” and “*Garree*.” All are employed in husbandry, and in carrying loads. Black or red are the prevailing colours, and very few are white, except at the tuft of the tail.

Besides these breeds of cattle, the people possess sheep and shawl goats, mules, and large herds of *Ghoonts*, or hill ponies. The dogs

are not numerous, and are a sadly degenerated breed of the Thibet mastiff (*Canis molossus* var *Thibetanus*)\*. Cats are seldom seen, but are similar to those of the lower hills, being usually of a deep grey with darker narrow transverse bands on the sides.

In a country so bare of forest scenery, and presenting so little cover, it is not to be wondered at that the wild animals are few in number. The ibex, wild sheep, vulture, eagle, Indian vulture, raven, chough, chicore, bhair, sparrow, snow bunting, some pigeons and Brahminee ducks, were nearly all that were seen or heard of.

The ibex is known throughout the upper portions of Kunawur and in Tartary, by the name of "*Skeen* or *Sikeen*" and appears to be identical with the animal called by Hamilton Smith the "*Abyssinian Ibex*," or "*Capra Jaela*." It is found only in the most inaccessible parts of the mountains near the borders of eternal snows, leaping with surprising agility from crag to crag, and bidding defiance to pursuit.

It is therefore only when the heavy falls of snow on the heights where they love to range have driven them down for pasture to the lower and more accessible parts on the borders of the forests, or in the shelter of the glens, that they fall a prey to the wary hunter, who stealing on them with noiseless tread, fires on the herd from behind the shelter of some ledge that screens him from their sight.

I had no opportunity of inspecting a perfect specimen, but from the horns and skins, the following description of the "*Abyssinian Ibex*," taken from the Naturalist's Library, would appear to be appropriate.

"It is of a dirty brownish fawn colour, with a short beard, and lengthened hair under the throat down the breast, and a darkish line on the anterior part of the legs and along the back. The horns are superior in length to those of the European Ibex, forming a half circle closer on the forehead."

In the Himalayan ibex, the horns are large, rising as in the European species, "from the crest of the skull, and bending gradually backwards"; "they are flat-sided, and have the anterior surface ringed or barred with very strong cross rugged bands."

The same opinion regarding the increase of these bands with age, is prevalent in these mountains, the natives declaring that *two rings or bands* are the growth of *one year*.

\* For a good figure, see "Gardens and Menageries, Zoological Society".



I showed a plate of the European ibex to the Leepee hunter, asking him if he knew what it was, and he had scarcely set eyes on it, when he exclaimed with delight, "wah, wah, it is the Skeen."

The animal has in a great degree the strong smell peculiar to the males of this genus.

The wild sheep is the same as that which in my trip to the Burrenda Pass, in 1836, I erroneously stated to be a variety of the "Ovis ammon"; I had not then seen one near. Since that time, however, I have had opportunities of inspecting several fine specimens, and find it to be the "Ovis nahoor" of Nepal, which has been already ably described by Mr. Hodgson. It is known to the Hill people of the west as the "Burrul."

Of the "Ovis ammon," I could learn nothing, save that an animal apparently answering to the description, is found in Chinese Tartary, and I saw an enormous pair of its horns, nailed among other kinds, to a tree as an offering to Devi.

It is said by writers, that one of the descriptive characters of the European vulture eagle consists in its proneness to attack the flocks of sheep, dashing downwards from on high with irresistible strength, and hurling the young or sick animals over some precipice, in order that it may banquet on the crushed and mangled carcase.

If such account be true, it furnishes a strong additional reason for separating the "Lamergeyer" of the Swiss, from the Himalayan bird; for the latter is never known to attack aught of larger size than a barn-door-fowl, and it must be hard pressed indeed by hunger ere it will even venture that. Its food consists, as I stated on a former occasion, of carrion and offal, which it takes in company with the true vultures, or snatches from the ground in its talons after the manner of the kite (*Falcochula*) and devours it as it flies. It ranges from Subathoo in the lower hills, to the barren and snow-clad heights of Tartary.

The Chough, or red-legged crow (*Pyrrhocorax graculus*), is common over all the snowy heights of Kunawur, from 10,000 feet and upwards. In Tartary it is very abundant, and appears to be identical with the English bird, though rather exceeding it in size. In Hung-rung and Spiti I observed a second species, apparently possessing the

same habits, and similar to the common chough in all, save the bill, which is much shorter, and of a bright yellow colour, instead of the rich orange of the Cornish chough. The legs are similar in both. They appeared to keep apart from the other species, and were most abundant where the former were fewest. Dunkur and the upper parts of the valley seemed to be their proper habitat. It is in all probability a known species, and comes I think into Cuvier's genus "Fregilus."

As the winter approaches, both flocks and herds are again driven down to the villages, where they are fed on fodder, which has been stored up for them during summer. This consists in a great measure of the tender shoots of a shrub, which grows over the hills, especially in Hungrung, and the upper portions of Kunawur, in great abundance. It is common wormwood, and possesses the pleasant smell of the southern-wood of England, which is I believe the same plant, or a closely allied species; where this shrub occurs in great abundance the air is often scented with it, and if trodden under foot the smell is both powerful and pleasant.

In the season when the men are on the mountains with the flocks, or carrying grain to those parts of Chinese Tartary where little or none is produced, the care of the crops around their villages devolves almost entirely upon the women, who are seen early and late throughout the day, weeding and irrigating their fields.

The chief produce of Spiti is common, celestial, and beardless barley, (nunga jow of natives) wheat, beans, peas, and phuppra, which are produced in some abundance in the lower parts of the valley from Dunkur downwards.

Dunkur is the chief mart for grain, and has a goodly patch of cultivation around it.

Birmore, a thick kind of woollen cloth, somewhat of the texture of a blanket, is made in this district of the wool which is received from the Choomoortee and Thibetan shepherds. The cloth is made in pieces of about eighteen inches wide, and varying in length from six to twelve yards, and has some resemblance to the thick woollens of which box coats are made in England. These pieces are sold generally in pairs, at five to seven rupees, according to the quality and size.

Though yaks are plentiful through this district, no chowrees are procurable, as the people neglect the tails of the animals, the long hair

of which is consequently broken as they roam among the furze of the upper tracts during summer. The villages of Nako, Chungo, Leco, Poo,ee, and Hungo in Hungrung, are some of the places from whence chowrees are chiefly exported to the lower hills, and much care is bestowed upon their growth.

The black ones are not esteemed by the natives, and are therefore left to nature, and are either used to hang on poles, one of which is erected on the roof of almost every house as a propitiatory offering to some deity, or the long hair is plaited into ropes, which are both strong and durable. Hemp is unknown in this country, and every person of the poorer class has a rope of yak's or goat's hair twined round the waist, which serves not only as a waistband, but is also used to bind their loads upon their backs.

The white tails, however, have the hair often cut to make it grow longer, and the whole is enclosed in a bag to keep it free from dirt, and to prevent its being broken by thorns and bushes. When the hair has attained a good length, the tail is cut off, bone and all, and dried in the sun, after which the chowree, or chownree as it is termed, is sent to the lower hills for sale. In Hungrung the price asked is from 1-8 to 3-8 Co's. rupees, and even four rupees, according to the length, and the quantity of hair. At Simla double these sums are demanded by the Cashmerians, who purchase them at the Rampore fair. Formerly the price even in Hungrung was much lower, but the demand for them, since Simla has become a *fashionable resort*, has raised their value.

The same effect has been produced at Soongnum in Kunawur, with regard to the price of blankets which are there made; formerly *one* blanket was as thick as *two* of the present manufacture, and sold for the same, and often for a less price. The demand for them of late years has, however, both raised the price, and deteriorated the quality. Now, it is no longer a matter of rivalry who shall produce the *best* blankets, but who shall produce the greatest number, and the wool which formerly would have been apportioned to one, is now made into two blankets, which are sold at 3-8 and four rupees a piece at Soongnum; and at Simla from five to eight rupees by the Cashmerians.

Among the Tartars there are many families who possess no fixed habitation, but wander about from place to place, with their flocks, ac-



according as they find a market for their goods. To these people, in the language of the country, the title of "Kampa" is applied.

They live altogether in tents, or encamp beneath overhanging rocks, wandering, as the winter approaches, from their native country down to the lower parts of Kunawur and Cooloo, where they dispose of the produce of the upper hills, and subsist their flocks until the periodical rains are about to commence, at which season they again travel to their native scenes, laden with grain, iron, &c.

The Tartar who accompanied me as a guide through Spiti by order of Puttee Ram, the present vuzeer, was constantly termed "Kampa" by the people of the different villages, and at first I thought it was a title signifying some sort of authority, but it appeared on inquiry that he had once pursued the wandering trade of a Kampa, and although he was now well off, and possessed of houses and land both in Hungo and Leeo, the term still clung to him.

Another title often conferred upon him, also, was that of "Laffa," which I found to have nearly the same meaning as the word "mate" of the lower hills, that is, a servant possessing some little authority over his fellows, as the mate, or head man of a set of Japannees, the mate, or man in charge of a Dâk bungalow, and in Kunawur, the mate of a village, who is the "locum tenens" of the Mookiah when absent. Gerard more than once mentions having exchanged scarfs, or khuttubs, with the Laffa of Peenoo and other villages in Tartary, which he says is the usual custom.

During my trip through Tartary, I never even saw a single khuttub, nor did I find it necessary to offer one, although the Laffa of each place paid me a visit, and presented the usual small "nuzzur" of attah, raisins, or ghee. Gerard no doubt concluded it was necessary to present a scarf, because he had found it the custom to do so in Chinese Tartary.

All the inquiries however that I made on the subject, tended to prove that the custom only prevailed among the Chinese people, and that it was quite unnecessary to make any present at all to a person of such inferior rank as the Laffa or mate of a village.

On my return from Spiti, when starting from Leeo where my guide resided, he begged to be released from his post, as in a few days he wished to start for Choomoonee with his last year's produce, and

purchase wool for the Rampore market. Having no farther need of his services, I dismissed him with a present of five rupees, a common single bladed penknife, and some strings of imitation coral beads, as also a string of beads for his wife.

The present though partly consisting of what I thought trash, was received by him with every mark of delight, and laying the things at my feet, he knelt down and touched the ground with his forehead,\* saying he had received a great reward.

On the 4th July, after an absence of nearly a month, I once more took up my abode in the small bungalow at Soongnum. It is a small flat-roofed house, of one room, and was built several years since by a Dr. Wilson on the site of an old temple. In front of the door is a post on which are nailed many horns of the ibex, wild sheep, and goats, and a similar collection is seen against the trunk of the cedar tree which overhangs the house.

The town of Soongnum is situated, according to Dr. Gerard, in latitude  $31^{\circ} 45'$  and longitude  $78^{\circ} 27' 24''$  east, and stands in the bottom of a glen between the high passes of Roonung and Hungrung, the one being directly in front, and the other in rear of it. The glen is called the valley, of Rūshkoolung, and runs nearly north-west and south-east. It is well watered by a stream, which runs through it from the snows on the Mānērūng Pass, above Mānes in Spiti, and joins the Sutledge a short distance below Soongnum.

From the town, extending about three miles up the stream, is a beautiful strip of cultivation of half a mile in breadth.

There are generally two crops produced during the season, the first consisting of wheat, barley, and beans, which is generally gathered in during the months of July and August, and the second of Phuppra, which is ready in all September, unless, as sometimes happens, it is destroyed by early frosts and snow.†

Turnips also of large size constitute part of the second crop, and are said to weigh two and even four pounds each. These are yellow, and when dried and pounded they are mixed with the wheaten or barley flour, and form the principal food of the inhabitants during the

\* This was performing a kind of "Kotoo" !?

† In all preceding accounts of these hills, the word *Phapur*, is almost invariably substituted for Phuppra, which is correct, and is pronounced as though it were spelled "*Fuppra*."

autumn and winter seasons. From their yellow colour and farinaceous nature, they would seem to approach the Swedish species; some care is bestowed upon their cultivation, as if sown thickly, they have not room to swell, and consequently are of small size;—in order to increase their growth, the fields are thinned and the turnips planted at some distance from each other, by which means they come to perfection, and are dug in October. Besides forming part of the food of the people, they are also given to cattle during the winter.

The beans have all the appearance of the common European garden vegetable, and are used when ripe to feed cattle, or are ground into flour, and eaten by the people.

From the situation of Soongnum, between the high passes, and the direction of the valley, a strong wind generally prevails during the greater part of the day, and retards in some measure the advance of vegetation, which is here far less vigorous and forward than at the Tartar villages of Hungo, Leeo, and Chungo, the first and last of which, although at a greater elevation, are not so much exposed as Soongnum.

The manufactures here are blankets and sooklat, which are exported to the Rampore fair, where the former sell according to the quality, from three to five rupees each, and the latter at about four rupees eight annas, to six and seven rupees per pair. The latter article is, however, principally exported from Khanum and Labrung, and its quality is somewhat better than that of Soongnum.

There is a large Takoordwara, or Lama temple, in the upper part of the town, to which light is admitted by two apertures in the roof, which are protected from the weather by conical roofs of cedar wood, somewhat after the Chinese style.

About half a mile farther up the glen is another and larger temple of the same description, and near it are the huts where the “nuns,” as Gerard has termed them, reside during the winter season.

These nuns are strictly speaking *female* Lamas, or priestesses, and are called “Jummoo.” They are forbidden to marry, and usually wear garments of red stuff.

Some are dispersed during the summer months, and attend upon the different temples throughout the district, reading the sacred books, and performing religious ceremonies like the Lamas; others are occu-



pied in the care of their crops ; while those who are poor, and have none, roam about begging a livelihood.

In the winter, when the severity of the season generally prevents their wandering about, they assemble at Soongnum, and reside together in a collection of huts near the town, until the return of spring again disperses them. This at least was the account given of them by the natives.

The Lamas, on the other hand, reside during winter, some in the temples and others in their own private dwellings.

In some of the temples are large wooden cylinders\* or barrels placed on an axis and turned by a stream of water ; they are also seen at Soongnum by the road side, with a shed built over them. The temples are often ornamented with colossal figures of their gods, which are sometimes represented in grossly indecent attitudes.

The fruits at Soongnum are apricots, apples, neozas, and grapes. The apples are of good size, and are said to be finer here than in any other town of Kunawur, and ripen about the month of October. The finest grapes are produced at the village of Ukpah on the Sutledge. At Soongnum the grapes are neither very abundant nor very good, and do not occur across the Hungrung pass at all. Apricots are seen as far as Leeo, where they also cease to grow ; and in Spiti, as already mentioned there are no fruits at all. Besides these garden fruits, there are gooseberries and currants innumerable on the mountains' sides, but they are not cultivated by the natives, nor held in estimation.

From Soongnum I made an excursion up the Rūshkōlung valley, towards the village of Roopa, near which I heard that veins of copper ore were found in the rocks.

This glen is certainly much more worthy the name of a valley than any I have yet seen in the Himalayas, with the exception of the beautiful and fertile valley along the banks of the Pubbur river, leading down from the Burrenda pass through Choora.

For three miles from Soongnum, the pathway lay through rich fields of barley, beans, and young wheat, studded with numerous apricot trees, so numerous indeed, that the whole appeared like luxuriant vegetations springing up beneath the shelter of a large orchard or forest

\* These are used as the Manees above noted ; written prayers are enclosed in them, and the rotatory motion is supposed to make them acceptable.

of apricots. This strip of cultivation is about half a mile in width, and through it rushes the foaming stream of the Darboong river, which takes its rise in the snows of Mänëring Pass above Maness in Spiti.

The spot partook more of the sweetness of one of those beautiful and picturesque vales in which our Scottish hills are so rich, than of the usual tameness of oriental Highland scenery.

Here as I walked along, I felt more pleasure than I had experienced during all my wanderings, while contrasting the beauty of this scene with the bare black hills of Spiti, to which I had been for so many days accustomed. There, all was cheerless, and almost devoid of vegetation; while here, around me lay a broad sheet of green fields, above on the mountains' side rose dark forests of neoza and kayloo pines, whose sombre tints were again relieved by the paler hue of the cedar and the willow, while bushes of the dog-rose were scattered at random through the valley, loaded with flowers, and presenting literally a mass of pink of every shade, from the dark bright tint of the opening bud, to the pale hue of the withering flower. About three miles from Soongnum the valley narrows, and becomes a mere mountain glen; cultivation ceasing for about a mile, when it again refreshes the sight around the village of Roopa. Beyond this the road ascends over broken rocks, and winds high above the bed of the torrent, through a forest composed almost entirely of cedar trees. These are mostly stunted, and very crooked, so that it is with difficulty that plants of any size fit for economical purposes can be procured. This difficulty has lately been increased by the erection of a large temple at Khanum, for which all the best trees in the district were selected, and few therefore of any size now remain.

Between Soongnum and Roopa, a large portion of the neoza pines are the property of the Bussaher Rajah, to whom the produce is annually sent down. These are generally situated on estates that have lapsed through the extinction of families, or other causes, and it is not a custom peculiar to Soongnum, but obtains also in other parts of Bussaher.

Three miles from Roopa, and seven from Soongnum, in the midst of the cedar forests, my guide stopped, and pointing upwards towards the summit of the rocks, which rose boldly and abruptly in rugged cliffs, he showed me a white mark far above the belt of trees, where

he said copper had been dug in the preceding year, but that now the weight of the winter snows had forced in the rock, filling the mines with rubbish, and the workmen had gone farther on in search of a fresh vein of metal.

Thinking that this might be merely a *ruse* to prevent my ascending to the spot, I desired him to show the way, and lead me to the abandoned mine, but he declared he had never been there, and could not guide me. Hereupon a council was held as to what was to be done, for to attempt to scale the rocks without a guide, was almost tantamount to suicide.

In this dilemma we espied at no great distance a kind of bower or hut built of green branches, torn from the cedar trees amongst which it was situated; so nicely was it calculated, from the materials of its construction and its position amidst the low and stunted trees, to escape detection, and pass for part of the brushwood, that I could scarcely believe it to be any thing else, until the guide removing a large branch, exposed a door way to view.

Within this sylvan abode was a woman with an infant in her arms both fast asleep, but being awakened by the removal of the door, she replied to our inquiries that the miners had gone in search of ore to a part of the mountain some miles distant, and would not be back for eight or ten days, and that she and an old man were left behind to burn charcoal against their return.

After some delay we succeeded in finding the man, whom we obliged very unwillingly to show us the path up the rocks.

With some grumbling at the prospect of the toil before him, he at last started, and never in my life do I wish to follow any one over such a path again.

The first four or five hundred feet were tolerably easy, being composed of loose soils and fragments of rocks, over which it was not difficult to climb, from their more gradual slope, but beyond this the rocks rose at once precipitously, presenting nothing but their ragged and projecting fragments to walk over. The ascent therefore was now hazardous from its steepness, and often caused us to stop to take breath, but the footing on the rock was firm, so that by the aid of both hands and feet, we succeeded in nearly attaining the desired spot, without once thinking how we were to descend from our aerial



position. At last a deep chasm, which had once been the bed of a snow stream from above, for a while arrested our progress, until we had cut holes or notches for our feet. This was done by the guide, who standing first on one leg and then on the other, cut or scraped with the end of a stick the holes as he advanced, all the while balancing himself over a precipice, into which, had his footing given way, he must have been hurled and dashed to atoms. He, however, was perfectly at his ease, for having formed the stepping places, he turned his back upon the precipice as with the greatest unconcern he tendered his hand to steady me over the yawning gulph. It was a place that I would gladly have returned from, but having insisted upon coming, and taunted the people for their hesitation, pride forebade my return. With a beating heart, and somewhat unsteady step, I accepted the proffered aid, and succeeded in crossing.

Two such gaps in the hill side were passed before we reached the abandoned mines, which after all were holes scraped in the rock to the depth of eight or ten feet, and which were now filled up by the splitting of the stones, and the quantity of rubbish brought down by the frost and snows of winter.

Here I picked up a few weathered specimens of the ore, which I thought a very poor remuneration for the toil I had undergone.

If the path was difficult of ascension, it will be readily conjectured that it was twice as much so to descend again; by dint of sometimes descending step by step backwards, and at others almost sitting down to it, down we got in safety, after ascending and descending a height of three thousand feet, and after a walk of seven miles from Soongnum.

The copper occurs in veins of white quartz, running parallel to the strata of greywacke, and old red sandstone, which are here the chief formations. It is worked by a few miners from Rampore, who are just enabled to earn a livelihood by the sale of the ore. A small duty paid in copper is taken by the Rajah of Bussaher, who is said to have worked the mines on his own account as a trial for one year, but the small quantity obtained, the distance of carriage, and the impossibility of working more than six months in the year, induced him to abandon the undertaking. The present miner resides in the forest near the different mines, or more properly excavations, during five or six months, and sells the produce of his labours at Soongnum.

In the autumn and winter the mines are abandoned on account of the snow, and the return of spring invariably discloses the destruction of them, by the splitting of the frost-bound rocks.

Last year (1837) the quantity of ore obtained, exclusive of the Rajah's duty, was from sixteen to seventeen maunds. Were these rocks situated in the lower hills, free from the severer action of frost and snow, they would doubtless yield a good return for the labour of working them, as the ore is by no means scarce, or only on the surface as has been stated. It occurs in veins in several parts of the mountain, and is deep seated; the fact of its occurring on the surface, is simply because the outcropping of the strata exposes it to view, but the vein dips down to the N. E. between the beds of greywacke and old red sandstone, and is thus inaccessible to the rude method practised by the people, whose excavations or mines are invariably filled up with rubbish during the winter. The ore is found on both sides of the valley, at about 13,000 feet above the sea, and 4,000 feet above Soongnum.

At the foot of the rocks I found my tent ready pitched among the cedar trees. Halting here for the night, I, on the following morning again returned to Soongnum, whence after a day's rest, I proceeded to recross the Roonung Pass.

The march from Soongnum is one of great fatigue; the road being one long continued ascent from the stream below the town to the summit of the Pass, or leading to a perpendicular height of 5,200 feet in a distance of about five miles.

The road, which on my arrival here in the beginning of June, was with the whole hill side buried deep in snows, was now on the 10th July quite free in its whole extent, with the exception of a few yards at the summit, where the snow still formed a long, and hardened belt. Flowers of many kinds were seen along the way. The "*Saxifraga ciliata*," at a height of 12,500 or 13,000 feet, was just opening into flower, and the bright colours of a yellow potentilla, tinged the whole hill side.

On the *southern face* of this mountain not a trace of snow was any where to be seen, but in its place a most beautiful and refreshing sheet of young and luxuriant vegetation, sprinkled with the bright colours of various flowers.

I call attention to these facts, because it has hitherto gone abroad to the public that the snow on the Himalaya lies longer, and lower down on the southern face, than on the northern, and as both my experience in this matter, and Dr. Lord's remarks on the Hinducush are directly at variance with this *reputed* fact, I have ventured to quote the above named gentleman's words, and shall endeavour to remove what I have found to be an erroneous impression.

"At the time of our visit," says Dr. Lord, "the snow which on the southern face extended in any quantity, to a distance of not more than four or five miles, on the northern, reached *eighteen or twenty*, and at a subsequent period, November 9th, when I made an attempt to go into Turkistan by the pass of Sir Ulung, and met with *no snow* until *within ten miles of the summit*, it actually on the northern face extended *sixty miles*, or nearly four days' journey." This is a fact which forcibly arrested my attention, as the *reverse* is well known to be the case in the Himalayan chain, where snow lies lower down on the southern face than on the northern, to an extent corresponding with 4,000 feet of perpendicular descent.

But the Himalaya and the Hinducush have the same aspect; the same general direction; lie nearly in the same latitude; and in fact are little other than integral parts of the same chain. The local circumstances however connected with each are precisely reversed. The Himalaya has to the north the elevated steppes of Central Asia, and to the south, the long low plains of Hindustan; Hinducush, on the other hand, has to the south the elevated plains of Cabul and Koh-i-damun, between five and six thousand feet above the level of the sea, while to the north stretch away the depressed, sunken, and swampy flats of Turkistan."

Against this long received opinion, that the snow lies deepest on the southern face, I shall merely oppose the few facts which fell under my limited observation during my journey into Tartary, and leave others of more experience to decide the point.

First, then, it must be observed that in the month of June, when I crossed the Roonung pass, the snow lay deepest and farthest down on the northern exposure.

On the southern face of the mountains it was first met with at about 12,500 feet of elevation, "lying in large fields or patches, and



uniting," at about 13,000 feet into one broad unbroken sheet, from whence to the summit of the Pass, or 1,500 feet more, it continued so, with the exception of fifty feet at the crest, when on the southern face there was none at all.

On the northern slope, on the contrary, it commenced at the very crest of the Pass, and continued in an unbroken sheet "to fully two miles and a half," while "beyond this, for half a mile more, it was broken and lying in detached masses."

The facts observable here therefore are greatly in favour of the northern face, for while the extent of snow is there estimated at three miles, that of the opposite exposure is but *two thousand feet*.

Again, on the Hungrung Pass the southern side had far less snow, both in respect to depth and extent, than the northern face down which it stretched nearly to the village of Hungo, or to a distance from the crest of the range of 3,600 feet in perpendicular descent, or between four and five miles from the Pass.

Again, in Spiti, above Leedung, while the southern exposure of the Pass was almost entirely free from snow, except immediately at the summit of the range, the whole northern face was buried deeply to some extent.

On my return to Hungrung in July, the northern side still held patches here and there, while the crests of the mountains were covered; but to the southward not a vestige of snow remained, except far down the glen, where from the falling of repeated avalanches from above, a hard and solid mass had become wedged into an arch or bridge across the brawling torrent that descended from the Pass.

Opposite to this, and merely divided by the narrow valley in which stands Soongnum, the northern aspect of Roonung still retained "a broad, and hardened belt of frozen snows" along its crest, while to the southward, not a trace of it remained.

To the right of Soongnum, towards Roopa, on the southern cliffs, no snow remained at all, while those with the northern aspect were in most parts still deeply buried, as was also the northerly face of Manerung, in Spiti.

From these few facts it will appear, that contrary to the usual belief, the snow is retained longer on the northern than on the southern exposure, exactly corresponding to the scientific observations, and re-

marks of Dr. Lord on the Hinducush ;—and why indeed other than such a result should be expected, I am at a loss to divine. The aspects nearly the same, forming part and parcel of the same great range, surely the same phenomena in this respect might naturally be looked for.

From the crest of Roonung Pass, I bid a long farewell to Soongnum, which was seen in the depth of the glen below, and then dropping over the Pass, I descended gradually for about four miles to a stream of water, and a flattish piece of ground, where I sat down beneath a rock to await the arrival of my tent and baggage. Fatigued by the length of the toilsome ascent from Soongnum, and by the heat of the day, I soon fell fast asleep in my shady retreat, and on again opening my eyes, I found the tent pitched, and ready for my reception. It was now four o'clock p. m. and I found that I had enjoyed a sleep of as many hours, having arrived at the spot about midday.

We were here still at a height of 12,000 feet, and far below us in the distance was seen a part of the town of Khanum, while immediately beneath our encampment, at about two miles distant, was a broad piece of cultivation, with a few temporary huts called a *Dōgrēe*, and belonging to Khanum and Leebrung. These patches of cultivation, far from villages, are often met with both in Kunawur and Hungrung. A few huts are erected on them, which serve to shelter those to whom the crops belong during the summer months, and which, when the harvest is gathered in, are abandoned during the winter. To these places the flocks and herds are also driven, where upon the surrounding hills, now free from snow, they find an abundant pasturage. In the language of Kunawur these temporary residences are termed *Dōgrēes*, and in that of the Tartars "*Rezing*"; thus we find "*Rezing*" and "*Chang-rezing*", on the road to Spiti, to be patches of cultivation, and sheepfolds belonging to the inhabitants of the village of Chango.

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